



DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal No. 21-63]

Arms Sales Notification

AGENCY: Defense Security Cooperation Agency, Department of Defense (DoD).

ACTION: Arms sales notice.

SUMMARY: The DoD is publishing the unclassified text of an arms sales notification.

FOR FURTHER INFORMATION CONTACT: Neil Hedlund at neil.g.hedlund.civ@mail.mil or (703) 697-9214.

SUPPLEMENTARY INFORMATION: This 36(b)(1) arms sales notification is published to fulfill the requirements of section 155 of Public Law 104-164 dated July 21, 1996. The following is a copy of a letter to the Speaker of the House of Representatives, Transmittal 21-63 with attached Policy Justification and Sensitivity of Technology.

Dated: April 19, 2023.

Aaron T. Siegel,

Alternate OSD Federal Register Liaison Officer,

Department of Defense.



DEFENSE SECURITY COOPERATION AGENCY
201 12TH STREET SOUTH, SUITE 101
ARLINGTON, VA 22202-5408

December 10, 2021

The Honorable Nancy Pelosi
Speaker of the House
U.S. House of Representatives
H-209, The Capitol
Washington, DC 20515

Dear Madam Speaker:

Pursuant to the reporting requirements of Section 36(b)(1) of the Arms Export Control Act, as amended, we are forwarding herewith Transmittal No. 21-63, concerning the Navy's proposed Letter(s) of Offer and Acceptance to the Government of Greece for defense articles and services estimated to cost \$6.9 billion. After this letter is delivered to your office, we plan to issue a news release to notify the public of this proposed sale.

Sincerely,

A handwritten signature in blue ink, reading "Jedidiah P. Royal", is positioned above the printed name.

Jedidiah P. Royal
Acting Director

Enclosures:

1. Transmittal
2. Policy Justification
3. Sensitivity of Technology
4. Section 620C(d) Certification

Notice of Proposed Issuance of Letter of Offer
Pursuant to Section 36(b)(1)
of the Arms Export Control Act, as amended

(i) Prospective Purchaser: Government of Greece

(ii) Total Estimated Value:

Major Defense Equipment*	\$5.4 billion
Other	<u>\$1.5 billion</u>
TOTAL	\$6.9 billion

Funding Source: National Funds

(iii) Description and Quantity or Quantities of Articles or Services under Consideration for Purchase:

Major Defense Equipment (MDE):

Four (4) Multi-Mission Surface Combatant (MMSC) Ships
Five (5) COMBATSS-21 Combat Management Systems (4 installed, 1 spare)
Five (5) Vertical Launch Systems (VLS), MK 41 (4 installed, 1 spare; 8 cells per set)
Two hundred (200) Rolling Airframe Missiles (RAM) BLK 2 (84 installed, 10 test and training rounds, 106 spares)
Five (5) MK 49 Guided Missile Launcher Systems (4 installed, 1 spare)
Eight (8) RAM BLK 2 Telemetry Missiles
Thirty-two (32) Vertical Launch Anti-Submarine Rocket (ASROC) Missiles (VLA) (12 installed (3 per ship), 8 test and training rockets, 12 spares)
Sixteen (16) 7.62mm M240B Machine Guns with ammunition (8 installed (2 per ship), 8 spares)
Thirty-two (32) MK-54 All Up Round Lightweight Torpedoes (16 installed (4 per ship), 16 spares)

Non-MDE:

Also included are additional single, VLS cells for VLA; ordnance; testing; training; follow-on support; TRS-4D radars; Common Anti-Air Modular Missile (CAMM); Common Anti-Air Modular Missile-Extended Range (CAMM-ER); Naval Strike Missile (NSM) RGM-184B and launchers; MK 46 Lightweight Upgrade to MK 54 Lightweight Torpedo; torpedo containers; Recoverable Exercise Torpedoes (REXTORP) with containers; Exercise Torpedoes (EXTORP) with containers; Expendable Mobile A-size Antisubmarine Warfare (ASW) Training Targets (EMATTs); Fleet Exercise Section (FES) and fuel tanks to be used with MK 54 conversion kits; air launch accessories for fixed wing; 76mm OTO STRALES gun with ordnance; Fire Control Radar; Gun Computer System; 20mm Narwhal gun system with ordnance; M2A1 .50 caliber machine gun with ammunition; NIXIE SLQ-25 Surface Ship Torpedo Defense System; Sylena MK 2 Decoy Launching System with CANTO torpedo countermeasure; Elta Electronic Warfare suite with counter-unmanned aerial system capability; Compact Low Frequency Active Passive Variable Depth Sonar-2 (CAPTAS-2); Low Frequency Active Towed Sonar (LFATS); SQQ-89; AN/ARC-210 (RT-2036(C)) radios; Identification Friend or Foe (IFF) Equipment; Infrared Search and Track/EO director; Naval Laser Warning System; chemical, biological and

radiological threat detectors; and 7 meter Rigid Hull Inflatable Boat (RHIB). Also included are support and test equipment; spare and repair parts; communications equipment, including Link 16 communications equipment; Battlefield Information Collection and Exploitation System (BICES); AN/SRQ-4 Tactical Common Datalink; Global Command and Control System-Joint (GCCS-J); Air Defense Systems Integrator (ADSI); cryptographic equipment including SY-150, SY-117G, and KYV-5M; Defense Advance GPS Receiver (DAGR); software delivery and support; facilities and construction support; publications and technical documentation; personnel training and training equipment; U.S. Government and contractor engineering, technical and logistics support services; test and trials support; studies and surveys; and other related elements of logistical and program support.

(iv) Military Department: Navy (GR-P-SCM)

(v) Prior Related Cases, if any: None

(vi) Sales Commission, Fee, etc., Paid, Offered, or Agreed to be Paid: None known

(vii) Sensitivity of Technology Contained in the Defense Article or Defense Services Proposed to be Sold: See Attached Annex

(viii) Date Report Delivered to Congress: **December 10, 2021**

*As defined in Section 47(6) of the Arms Export Control Act.

POLICY JUSTIFICATION

Greece – Multi-Mission Surface Combatant (Hellenic Future Frigate (HF2))

The Government of Greece has requested to buy four (4) Multi-Mission Surface Combatant (MMSC) ships; five (5) COMBATSS-21 Combat Management Systems (4 installed, 1 spare); five (5) Vertical Launch Systems (VLS), MK 41 (4 installed, 1 spare; 8 cells per set); two hundred (200) Rolling Airframe Missiles (RAM) BLK 2 (84 installed, 10 test and training rounds, 106 spares); five (5) MK 49 Guided Missile Launcher Systems (4 installed, 1 spare); eight (8) RAM BLK 2 telemetry missiles; thirty-two (32) Vertical Launch Anti-Submarine Rocket (ASROC) missiles (VLA) (12 installed (3 per ship), 8 test and training rockets, 12 spares); sixteen (16) 7.62mm M240B machine guns with ammunition (8 installed (2 per ship), 8 spares), and thirty-two (32) MK-54 All Up Round Lightweight Torpedoes (16 installed (4 per ship), 16 spares). Also included are additional single, VLS cells for VLA; ordnance; testing; training; follow-on support; TRS-4D radars; Common Anti-Air Modular Missile (CAMM); Common Anti-Air Modular Missile-Extended Range (CAMM-ER); Naval Strike Missile (NSM) RGM-184B and launchers; MK 46 Lightweight Upgrade to MK 54 Lightweight Torpedo; torpedo containers; Recoverable Exercise Torpedoes (REXTORP) with containers; Exercise Torpedoes (EXTORP) with containers; Expendable Mobile A-size Antisubmarine Warfare (ASW) Training Targets (EMATTs); Fleet Exercise Section (FES) and fuel tanks to be used with MK 54 conversion kits; air launch accessories for fixed wing; 76mm OTO STRALES gun with ordnance; Fire Control Radar; Gun Computer System; 20mm Narwhal gun system with ordnance; M2A1 .50 caliber machine gun with ammunition; NIXIE SLQ-25 Surface Ship Torpedo Defense System; Sylena MK 2 Decoy Launching System with CANTO torpedo countermeasure; Elta Electronic Warfare suite with counter-unmanned aerial system capability; Compact Low Frequency Active Passive Variable Depth Sonar-2 (CAPTAS-2); Low Frequency Active Towed Sonar (LFATS); SQQ-89; AN/ARC-210 (RT-2036(C)) radios; Identification Friend or Foe (IFF) Equipment; Infrared Search and Track/EO director; Naval Laser Warning System; chemical, biological and radiological threat detectors; and 7 meter Rigid Hull Inflatable Boat (RHIB). Also included are support and test equipment; spare and repair parts; communications equipment, including Link 16 communications equipment; Battlefield Information Collection and Exploitation System (BICES); AN/SRQ-4 Tactical Common Datalink; Global Command and Control System-Joint (GCCS-J); Air Defense Systems Integrator (ADSI); cryptographic equipment including SY-150, SY-117G, and KYV-5M; Defense Advance GPS Receiver (DAGR); software delivery and support; facilities and construction support; publications and technical documentation; personnel training and training equipment; U.S. Government and contractor engineering, technical and logistics support services; test and trials support; studies and surveys; and other related elements of logistical and program support. The estimated total cost is \$6.9 billion.

This proposed sale will support the foreign policy and national security objectives of the United States by helping to improve the security of a NATO ally, which is an important partner for political stability and economic progress in Europe.

The proposed sale will improve Greece's capability to meet current and future threats by providing an effective combatant deterrent capability to protect maritime interests and infrastructure in support of its strategic location on NATO's southern flank. This acquisition, which will be awarded to the winner of an international competition for Hellenic Navy (HN) frigate modernization, will enhance stability and maritime security in the Eastern Mediterranean region and contribute to security and strategic objectives of NATO and the United States. Greece contributes to NATO operations in Kosovo, as well as to counterterrorism and counter-piracy maritime efforts. Greece will have no difficulty absorbing

these articles and services into its armed forces.

The proposed sale of this equipment and support will not alter the basic military balance in the region.

The principal contractor will be Lockheed Martin of Bethesda, MD. There are no known offset agreements proposed in connection with this potential sale.

Implementation of this proposed sale will require the assignment of approximately 8 additional U.S. Government and 22 U.S. contractor representatives to Greece to support engineering and logistics support for the production and integration of Hellenic Future Frigates into the Hellenic Navy Fleet.

There will be no adverse impact on U.S. defense readiness as a result of this proposed sale.

Notice of Proposed Issuance of Letter of Offer
Pursuant to Section 36(b)(1)
of the Arms Export Control Act

Annex
Item No. vii

(vii) Sensitivity of Technology:

1. The Multi-Mission Surface Combatant Ships (MMSC) or Hellenic Future Frigate (HF2), a derivative of the Freedom variant of the USN Littoral Combat Ship, will provide Greece with an effective combatant deterrent capability to protect maritime interests and infrastructure.

The sensitive technologies include:

- a. COMBATSS-21 is the ship's battle management system, which is produced by Lockheed Martin and derived from the USN's latest AEGIS combat management system. The COMBATSS-21 Combat Management System is the backbone of the Freedom-variant self-defense suite and integrates the radar, electro-optical infrared cameras, gun fire control system, countermeasures and short-range anti-air missiles. COMBATSS-21 provides a flexible, reliable next generation defense system.
- b. TRS-4D radar is a three-dimensional, air volume surveillance radar with fast target alert, which provides target designation to the combat management system for anti-air warfare (AAW) and anti-surface warfare (ASuW). The TRS-4D radar is manufactured by Hensoldt, a German company. It provides sensor support for surface gun fire control with splash detection, ship-controlled helicopter approach support, jammer detection, tracking and suppression, cued search with enhanced detection performance for a dedicated sector, cued track with high-accuracy target tracking for missile guidance, target classification, integrated IFF, and is integrated with the combat management system. The system is available internationally through Hensoldt.
- c. MK-41 Vertical Launch System (VLS) is a multi-cell, vertical missile launcher that accommodates multiple VLS-capable missiles, including CAMM, CAMM-ER and the Vertical Launch Anti-Submarine Rocket (ASROC) (VLA) Lightweight Torpedo. Each HF2 will be configured for eight (8) VLS tactical length cells, delivering up to thirty-two (32) quad-pack missiles, with an additional three (3) single VLS cells for a total of eleven (11) cells per ship. VLS exchanges guidance data with COMBATSS-21.
- d. Common Anti-Air Modular Missile (CAMM) is designed to counter highly sophisticated sea skimming anti-ship cruise missiles. It incorporates inertial navigation with uplink/downlink and active RF final homing that requires no target illumination. Sea Ceptor controls missile targeting and flight profiles before launch through to termination. CAMM are quad-packed and could be configured for a thirty-two (32)-missile ship loadout. CAMM is available internationally from MBDA. The CAMM system exchanges guidance data between Sea Ceptor and COMBATSS-21.
- e. Common Anti-Air Modular Missile-Extended Range (CAMM-ER) also counters highly sophisticated sea skimming anti-ship cruise missiles with additional range compared to CAMM. It incorporates inertial navigation with uplink/downlink and active RF final homing that requires no target illumination. Sea Ceptor controls missile targeting and flight profiles before

launch through to termination. CAMM-ER are quad-packed and could be configured for a thirty-two (32)-missile ship loadout. CAMM-ER is available internationally from MBDA. The CAMM-ER system exchanges guidance data between Sea Ceptor and COMBATSS-21.

f. Vertical Launch Anti-Submarine Rocket (ASROC) missile (VLA) is an all-weather, 360-degree quick-reaction, standoff anti-submarine weapon. VLA are fired from VLS with support from the SQQ-89 ASW combat system. Guidance data is exchanged with COMBATSS-21.

g. The MK 54 All Up Round Lightweight (LWT) Torpedo is a conventional torpedo that can be launched from surface ships, rotary and fixed wing aircraft. The MK 54 is an upgrade to the MK 46 Torpedo. The upgrade to the MK 54 entails replacement of the torpedo's sonar, guidance and control systems with modern technology. The new guidance and control system uses a mixture of commercial-off-the-shelf and custom-built electronics. The warhead, fuel tank and propulsion system from the MK 46 torpedo are re-used in the MK 54 configuration with minor modifications. Greece has not requested, nor will it be provided with the source code for MK 54 operational software.

h. MK 46 LWT Upgrade to MK 54 LWT. All MK 54 LWTs are produced by converting a MK 46 LWT and installing a MK 54 LWT upgrade kit. MK 46 LWT and MK 54 LWT programs have many common components; however, the majority of the MK 54 LWT is assembled with new production hardware.

i. Naval Strike Missile (NSM), RGM-184B, is an anti-ship cruise missile that provides anti-surface, over-the-horizon engagement capability against small-to-medium sized vessels. NSM incorporates an Intelligent Imaging Infrared (IIR) Seeker and Automatic Target Recognition (ATR). NSM is available internationally from Kongsberg Defence & Aerospace (KDA) – partnered with Raytheon. NSM telemetry missiles will also be procured for testing. NSM will not be integrated with COMBATSS-21.

j. The 76mm OTO STRALES gun is a multi-mission, rapid-fire naval gun for primary defense against air and surface threats and for employment in naval fire support missions. The 76mm OTO STRALES provides an accurate, sustained rate of fire of 1 to 120 rounds per minute, and is capable against subsonic, anti-ship missiles. OTO STRALES includes a radio frequency guidance system that increases system accuracy. The 76mm gun is available internationally from Leonardo/OTO Melara; STRALES from Leonardo. The 76mm gun is connected to the fire control radar and gun computer system, which is, in turn, connected to COMBATSS-21.

k. The medium-to-long range fire-control radar system interfaces with the gun computer system and COMBATSS-21.

l. The gun computer system directs the actions of the ship's main gun battery and receives orders for engagement and firing authorization from the Combat Management System. The gun computer system takes target data from ship sensors for air and surface targets, or operator-entered data for targets ashore, and calculates ballistic solutions and outputs gun positioning orders, ammunition loading and firing orders for the mount.

m. Infrared Search and Track (IRST) is a 360-degree, panoramic, day and night, passive air and surface surveillance system. The IRST system provides long-range detection with tracking of conventional, asymmetric and emerging threats.

n. The 20mm Narwhal gun system is a gyro-stabilized mount armed with a 20mm automatic cannon, an electro-optic, charge-coupled device camera, and a closed loop, fire-control system, which can be controlled remotely to enable system operation, target acquisition and tracking,

and fire opening by the gun operator. Optional add-ons include a thermal camera, laser rangefinder and target automatic tracking video system. The 20mm gun has a rate of fire of 800 rounds per minute of NATO standard ammunition and is produced by the French Government-owned Nexter Systems. The Narwhal gun will not be integrated with COMBATSS-21.

o. The 7.62mm M240B Machine Gun is an air-cooled, belt-fed and gas-operated weapon.

p. The M2A1 .50 Caliber Machine Gun is an air-cooled, belt-fed machine gun that fires from a closed bolt, operated on the short recoil principle.

q. Rolling Airframe Missile (RAM) BLK 2 is a lightweight, quick-reaction, fire-and-forget missile designed to destroy anti-ship cruise missiles and asymmetric air and surface threats. The BLK 2 provides kinematic and guidance improvements for countering maneuvering and low probability of intercept threats. RAM missiles are launched from the MK 49 Guided Missile Launcher System (GMLS). No shipboard support is required after shipboard launch. RAM telemetry missiles will also be procured for testing.

r. MK 49 GMLS is used to deploy RAM.

s. Low Frequency Active Towed Sonar (LFATS) is a low frequency, variable depth sonar used to detect, track and engage submarines. LFATS incorporates active and passive processing with 360-degree coverage. The VDS-100 system is designed for high performance at a lower operating frequency for improved performance.

t. Compact Low Frequency Active Passive Variable Depth Sonar-2 (CAPTAS-2) is a key sensor technology for identifying conventional, diesel-powered submarines operating in difficult sonar environments, such as littoral waters. CAPTAS-2 employs a single winch to tow the transmit tow body and receiver array.

u. The NIXIE SLQ-25 Surface Ship Torpedo Defense System is a digitally controlled, electro-acoustic, soft kill countermeasure decoy system capable of countering wake homing torpedoes, acoustic homing torpedoes, and wire guided torpedoes. NIXIE provides active/passive detection, location, threat identification of torpedoes and other acoustic targets. NIXIE's towed body, the decoy which diverts the threat from the ship, connects to the management system using a fiber optic cable to control the signals emitted by the decoy.

v. Sylena MK 2 Decoy Launching System with CANTO is a torpedo countermeasure. The Sylena MK 2 launches the CANTO decoy, which generates a high-level, 360-degree acoustic signal to jam the full frequency range of an attacking torpedo. Sylena MK 2 is available internationally from Lacroix; CANTO from Naval Group. The Sylena MK 2 decoy launching system and CANTO decoy will exchange data with COMBATSS-21.

w. Elta Electronic Warfare (EW) suite provides Radar Electronic Support Measures (RESM), Communications Electronic Support Measures (CESM), and Electronic Countermeasures (ECM) with Counter-Unmanned Aerial System capability. The Elta EW suite is available internationally through ELTA Systems, a subsidiary of Israel Aerospace Industries. The Elta EW suite will exchange data with COMBATSS-21.

x. Naval Laser-Warning System (NLWS) provides real time situational awareness of laser-based threats to enhance the tactical picture. NLWS interfaces with the ship's CMS, electronic support measures and the onboard countermeasure system. NLWS is available internationally from SAAB.

y. Identification Friend or Foe (IFF) Mode 5 is an identification system designed for command and control. It enables military and national (civilian air traffic control) interrogation systems to identify aircraft, vehicles or forces as friendly. Mode 5 provides a cryptographically secured version of Mode S and ADS-8 GPS position.

z. AN/ARC-210 GEN 6 (RT-2036(C)) version is a radio that provides two-way, multi-mode voice and data communications with military aircraft over Very High Frequency (VHF) and Ultra High Frequency (UHF) range using U.S. Type 1 encryption. ARC-210 radios contain embedded sensitive encryption algorithms, keying material and integrated waveforms.

aa. SY-117G is a combat manpack radio with Type 1 encryption for secure voice communication. In the HF2 configuration, the radio will be used for interoperable, secure Satellite Communications (SATCOM). The SY-117G COMSEC device is a Controlled Cryptographic Item (CCI).

bb. SY-150 is a combat manpack radio with Type 1 encryption. The SY-150 COMSEC device is CCI.

cc. KYV-5M supports tactical secure voice communications. The KYV-5M COMSEC device is CCI.

dd. Air Defense Systems Integrator (ADSI) is a tactical command and control system that integrates land, air and sea domains to report real-time sensor information across the battlespace.

ee. The AN/SRQ-4 provides the Tactical Common Data Link (TCDL) to serve COMBATSS-21 for command and control (C2) functions for radar, FLIR, and ESM data. Also, as the TC DL terminal on the ship, the AN/SRQ-4 exchanges the classified acoustic data with AN/SQQ-89 for real-time shipboard processing of MH-60R deployed sonobuoys, increased sonobuoy processing, updated sonobuoy control and increased ASW tracks. The AN/SQQ-89 accepts MH-60R ASW data and processes the data shipboard as a coordinated tactical ASW picture with the Variable Depth Sonar. ASW Operators, at AN/SQQ-89 consoles, analyze classified data and integrate with COMBATSS-21 to provide full implementation and access to the capabilities of the MH-60R. The MH-60R Multi-Mission Helicopters, procured by the Hellenic Navy under a separate FMS case, introduce dipping sonar, upgraded radar, electronic warfare, weapons including MK 54 torpedoes and external command and control systems. With the MH-60R comes the need for a Ku-Band Common Data Link via a shipboard AN/SRQ-4 Radio Terminal System to support the high data rate requirements associated with systems onboard the aircraft.

ff. The Battlefield Information Collection and Exploitation System (BICES) is a web-enabled, multi-national intelligence system that provides near real-time, correlated, situation and order of battle information.

gg. Global Command and Control System-Joint (GCCS-J) is a command, control, communications, computers, and intelligence system consisting of hardware, software (commercial-off-the-shelf and government-off-the-shelf), procedures, standards, and interfaces that provide an integrated near real-time picture of the battlespace necessary to conduct joint and multinational operations. For the HF2 configuration, GCCS-J will use Type 1 encryption.

hh. Defense Advance GPS Receiver (DAGR) provides secure, military Selective Availability/Anti-Spoofing Module (SAASM)-based GPS in the most reliable and proven handheld form available today. It is a military-grade, dual-frequency receiver, and has the

security hardware necessary to decode encrypted P(Y)-code GPS signals. Features include: graphical screen, with the ability to overlay map images, 12-channel continuous satellite tracking for “all-in-view” operation, simultaneous L1/L2 dual frequency GPS signal reception, extended performance in a diverse jamming environment, and SAASM compatibility.

ii. Improved Point Detection System-Lifecycle Replacement (IPDS-LR) is a ship-based Chemical Warfare Agent (CWA) detector designed for chemical detection of chemical warfare agent vapors onboard navy ships. The detector units have special interference rejection built into the detection algorithm and meets specifications for false alarm thresholds with sensitivity requirements. The sampling system includes specially designed sampling lines, filters, and bulkhead adapters to operate in marine environments.

jj. Enhanced Maritime Biological Detection (EMBD) is an automated biological point detection and identification system that provides near real time biological detection, warning, and presumptive identification against Biological Warfare Agents (BWAs). EMBD will provide an early indication that a BWA attack has occurred and provide identification information allowing ship commanding officers to select from an array of countermeasures that can prevent or limit exposure to the ship and other ships in the naval task force.

kk. Link 16 is an advanced command, control, communications, and intelligence (C3I) system incorporating high capacity, jam-resistant, digital communication links for exchange of near real-time tactical information, including both data and voice, among air, ground, and sea elements. It provides the warfighter key theater functions such as surveillance, identification, air control, weapons engagement coordination, and direction for all services and allied forces. With modernized cryptography, Link 16 will ensure interoperability into the future.

2. The highest overall level of classification of defense articles, components, and services included in this potential sale is SECRET.

3. If a technologically advanced adversary were to obtain knowledge of the specific hardware and software elements, the information could be used to develop countermeasures that might reduce weapon system effectiveness, or be used in the development of a system with similar or advanced capabilities.

4. A determination has been made that Greece can provide substantially the same degree of protection for the sensitive technology being released as the U.S. Government. This sale is necessary in furtherance of the U.S. foreign policy and national security objectives outlined in the Policy Justification.

5. All defense articles and services listed in this transmittal have been authorized for release and export to the Government of Greece.